

Delta Flow Criteria Informational Proceeding

Before the

State Water Resources Control Board

Scheduled to Commence

March 22, 2010

Exhibit CCWD-4

Statement of Qualifications of Richard Denton, Ph.D., P.E.

Water Resources Consultant

Richard Denton & Associates

Water Resources Engineering

Submitted on behalf of

Contra Costa Water District

P.O. Box H2O

Concord, CA 94524

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Statement of Qualifications of Richard Denton, Ph.D., P.E.
Water Resources Consultant/Sole Proprietor
Richard Denton & Associates
Water Resources Engineering
6667 Banning Drive
Oakland, CA 94611-1501
Tel: (510) 339-0161
Email: rdenton06@comcast.net

Present Position (as of February 2010)

Water Resources Consultant/Sole Proprietor
Richard Denton & Associates
Water Resources Engineering

Education

B.E. (Civil) with First Class Honors, 1972, University of Canterbury, New Zealand
Ph.D. in Civil Engineering, 1978, University of Canterbury, New Zealand

Professional Registration

Registered Civil Engineer C47212, California (since 1991)

Employment History

Contra Costa Water District <http://www.ccwater.com/>
1331 Concord Avenue
P.O. Box H2O
Concord, CA 94524-2099

1995 - 2006: Water Resources Manager (retired August 11, 2006)
1995: Principal Engineer
1994 - 1995: Senior Water Resources Specialist
1992 - 1994: Senior Engineer
1989 - 1992: Water Resources Specialist

Managed CCWD's Water Resources Group. Represented CCWD, California Urban Water Agencies, and Ag/Urban coalition in State Water Resources Control Board, CALFED Bay-Delta program and CVP Improvement Act proceedings related to the San Francisco Bay-Delta. Analyzed and modeled Central Valley operations and flow and salinity regimes in Sacramento-San Joaquin Delta. Modeled the operation of CCWD's Los Vaqueros Reservoir (completed in 1998) and proposed Bay-Delta projects. Participated in development and review of CEQA/NEPA and water right documents. Chair of CALFED Operations and Fish Forum. Served on the CALFED Bay-Delta Advisory Committee water supply subcommittee and the Association of California Water Agencies water quality committee. Project manager for development of CALFED Delta Region Drinking Water Quality Management Plan completed in June 2005.

University of California at Berkeley

<http://www.ce.berkeley.edu/index.php>

1982 - 1989: Assistant Professor in Civil Engineering

Carried out research in stratified flow, surface water hydrology, hydraulic engineering and mixing processes in rivers, reservoirs and estuaries. Taught graduate and undergraduate courses and supervised graduate research. Director of hydraulic and coastal engineering research laboratory.

University of Karlsruhe, West Germany

1978 - 1981: Research Engineer, Sonderforschungsbereich 80,
Postdoctoral research on stratified flow in reservoirs.

New Zealand Oceanographic Institute, Wellington, New Zealand

1978: Physical Oceanographer,

Analysis of tidal currents in fjords. Participated in marine biology cruise to the N.E. coast of Australia.

Professional Societies and Committees

Member, American Society of Civil Engineers

Member, International Association of Hydraulic Research

Convener, California Bay-Delta Modeling Forum, 1998

Chair, CALFED Operations and Fish Forum (August 2001 – August 2006)

Past Member, Friends of Water Resources Center Archives Board, UC Berkeley, CA

Previous Committees and Advisory Groups

Member, Local Organizing Committee for 27th Congress of the International Association for Hydraulic Research, San Francisco, August 1997

Member, ASCE Hydraulics Division Task Committee on Density Currents and Their Applications in Hydraulic Engineering.

Member, Technical Program Committee for the 1993 ASCE Hydraulic Division Conference.

Member, San Francisco Estuary Project (SFEP) Technical Advisory Committee.

Member, SFEP Technical Advisory Committee Workgroup on (Biological and Pollutant) Monitoring.

Awards

1995 Hugo B. Fischer Award, Bay-Delta Modeling Forum
(Joint winner with Professor Alan Jassby, UC Davis)
<http://www.cwemf.org/FischerAwardWinners.htm>

2010 Career Achievement Award
California Water and Environmental Modeling Forum
http://www.cwemf.org/achievement_award.htm

Publications

13 papers in refereed journals, 10 papers in conference proceedings and 6 research reports.
The following is a selection of these publications.

"Turbulent convection between two horizontal plates." (with I.R. Wood) International Journal of Heat and Mass Transfer, Vol. 22, pp. 1339-1346, 1979.

"Penetrative convection at low Péclet number." (with Ian R. Wood) Journal of Fluid Mechanics, Vol. 113, pp. 1-21, 1981

"Currents in Suisun Bay." California State Water Resources Control Board, Publication No. 85-3wr, 1985.

"Currents in San Pablo Bay." California State Water Resources Control Board, Publication No. 85-4wr, 1985.

"Hydraulic control over the sill in Observatory Inlet." (with David M. Farmer) Journal of Geophysical Research - Oceans, Vol. 90, No. C5, pp. 9051-9068, 1985.

"Currents in Central San Francisco Bay." California State Water Resources Control Board, Publication No. 86-6wr, 1986.

"Currents in San Francisco Bay - Final Report." (with James R. Hunt) California State Water Resources Control Board, Publication No. 86-7wr, 1986.

"Locating and identifying hydraulic controls for layered flow through an obstruction." Journal of Hydraulic Research, IAHR, Vol. 23, No. 3, pp. 281-229, 1987.

"Energy curves for multi-layer flow through obstructions." Journal of Hydraulic Research, IAHR, Vol. 27, No. 5, pp. 617-635, 1989.

"Classification of unidirectional three-layer flow over a hump." Journal of Hydraulic Research, IAHR, Vol. 28, No. 2, pp. 215-233, 1990.

"Analytical asymptotic solutions for longitudinal dispersion with dead zones." Journal of Hydraulic Research, IAHR, Vol. 28, No. 3, pp. 309-329, 1990.

"Hydraulic control of multi-layered exchange flow through obstructions." In Chapter 3, Stratified Flows, Edited by E.J. List and G.H. Jirka, Published by American Society of Civil Engineers, New York, 1990, pp. 123-132, 1990.

"Accounting for density front energy losses." (Discussion). Journal of Hydraulic Engineering, ASCE, Vol. 116, pp. 270--275, 1990.

"Seasonal influences on the sediment transport characteristics of the Sacramento River, California." (with Peter Goodwin) Technical Note 530, Proceedings of the Institution of Civil Engineers, Great Britain, Part 2, Vol. 91, March 1991, pp. 163-172, 1991.

Closure on Discussion of "Accounting for density front energy losses," by R.A. Denton (1989). Discussion by Wright, Kim and Bühler. Closure appeared in Journal of Hydraulic Engineering, ASCE, Vol. 117, No. 9, pp. 1224-1225, 1991.

"Density currents entering lakes and reservoirs." (with V. Alavian, G.H. Jirka, M.C. Johnson, and H.G. Stefan) Journal of Hydraulic Engineering, ASCE, Vol. 118, No. 11, November 1992, pp. 1464-1489.

"Accounting for Antecedent Conditions in Seawater Intrusion Modeling - Applications for the San Francisco Bay-Delta." Hydraulic Engineering 93, Volume 1, pp. 448-453, Proceedings of ASCE National Conference on Hydraulic Engineering, San Francisco, July 1993.

"Modeling the operation of a water quality reservoir and its effect on the Sacramento-San Joaquin Delta." (with G. Gartrell, and A.W. Nelson) Hydraulic Engineering 93, Volume 1, pp. 623-628, Proceedings of the ASCE 1993 National Conference on Hydraulic Engineering, San Francisco, July 25-30.

"Predicting Water Quality at Municipal Water Intakes - Part 1: Application to the Contra Costa Canal Intake." Hydraulic Engineering 93, Volume 1, pp. 809-814, Proceedings of ASCE National Conference on Hydraulic Engineering, San Francisco, July 1993.

Discussion of "Distribution of suspended sediment over wave-generated ripples." (with Gib Bogle) Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE, pp. 152-153, March/April 1995.

"Understanding the Delta - An engineering perspective." Invited lecture, California Colloquium on Water, University of California at Berkeley, April 10, 2001

<http://www.lib.berkeley.edu/WRCA/ppt/denton.ppt#5>

<http://video.google.com/videoplay?docid=-4013540791113074>

"Water Quality Optimization with a Blending Reservoir and Variable Sources" by Elliott Campbell, David Briggs, Richard Denton and Greg Gartrell. Journal of Water Resources Planning and Management, Volume 128, No. 4, pp. 288-302, July/August 2002

"Delta Region Drinking Water Quality Management Plan – Draft Final Report," by Contra Costa Water District, City of Stockton, and Solano County Water Agency. Prepared for CALFED Bay-Delta Program, June 2005 (Project manager).

<http://www.ccwater.com/publications/index.asp?sec=drwqmp>